

MEMORANDUM

To: NEPA (National Environmental Policy Act) File

From: Linda Even, ESH&Q Division

Subject: NEPA Activity Characterization CXA-2007-003
East Retention Pond and Ditch Modification and Widening Activity Project

Date: August 8, 2007

This characterization is based on discussions with Debra Brand and on drawings and specifications provided earlier. The job will involve tree clearing and other land disturbance totaling about 5 acres. An Action Information Checklist (AIC) has been prepared for this action. The scheduled activity will take about six months. The AIC describes the activity and NEPA concerns – some scope elements follow.

- Erosion and sediment control (E&SC) measures, included in specifications and as described in the project Environmental Protection Plan, will be in place prior to any disturbance and maintained per project specifications.
- Effectively trim and fell trees, within limits described on the Scope of Work and as identified necessary in the field, to be approved by the SOTR.
- Temporarily stockpile trees and limbs, mulching as required and practical and disposal at off-site facilities.
- Excavate earth materials and stockpile at the designated location.
- All disturbed areas will be graded, tilled and seeded as described in the specifications.
- The stockpiled earth to remain and will be seeded and a double silt fence installed (fencing to be removed once stockpile has been stabilized). Jefferson Lab will maintain this area at the completion of the project.
- Jefferson Lab will maintain the pond and surface water channels under site programs.

There will be an increase in storm water runoff and loss of habitat due to the removal of the tree cover. Runoff mitigation will include the new completed retention pond and seeding any disturbed areas at the completion of the job. No mitigation for habitat loss was identified as necessary.

Environmental aspects associated with the project are identified in #31 on the AIC. The environmental concerns due to this project are addressed under the following site NEPA documents:

| Jefferson Lab NEPA Documentation | Discussion |
|--|---|
| DOE/EA-1534, Environmental Assessment (EA) - Proposed Upgrade and Operation of the CEBAF and FEL Accelerators and Construction and Use of Buildings Associated with the 2005 Ten-Year Site Plan at the Thomas Jefferson National Accelerator Facility Newport News, VA, January 2007 | This EA covers the construction and use of the retention pond in support of the Lab's research mission. |
| DOE/EA-0257, Environmental Assessment (EA) for the Continuous Electron Beam Accelerator Facility, Newport News, Virginia | This EA covers the general functioning of Jefferson Lab to supports its research mission. |

It is understood that all conditions identified in the above NEPA documents and the general notes listed below will be followed. A list of a few key conditions follows.

General Conditions

- Permitted site activities will not be affected.
- There are no expected contaminated soil issues.
- There will be major earth disturbance in a previously undisturbed area, but there are no expected environmentally sensitive resources in the area. If a sensitive resource is identified, immediate notifications to JSA will be made per specifications.

Construction and Use Notes

- Traffic in the vicinity will be controlled and restricted.
- There will be no disturbance to areas outside of the limits of construction.
- E&SC measures will be installed and maintained by the subcontractor as shown on the drawings or as otherwise identified. Facilities and Logistics Management will maintain the E&SC measures in the interim between the pond and Hall D projects.
- Secondary containment will be provided for any storage of fuels or oils for construction equipment use.
- Any construction wastes generated will be temporarily stored per specifications.

Condition Citations not addressed above

- To ensure that sensitive resources are protected, contact ESH&Q staff upon identification of any unusual conditions or creatures.

Acknowledged:

Debra Brand
Debra Brand, Project Manager

8/8/07
Date

[Signature]
Keith Royston, Facility Maintenance and
Construction Manager

8/8/07
Date

CXA-2007-003

East Retention Pond and Ditch Modification and Widening Activity Project

Approved and Dated:



Linda Even, Environmental Engineer

8/8/07

Date

Attached: AIC

Drawings and specifications are available for review in Building 28, VARC room 80A.

cc: Debra Brand
Craig Ferguson
John Kelly
Bob May
Keith Royston
Rusty Sprouse
David Luke, DOE Site Office
Steve Neilson, DOE Site Office
DOELog

NEPA BACKGROUND
Proposed Action Information Checklist (AIC)
August 2007

Proposed Action Title: **Construction of East Retention Pond and Ditch Modification and Widening Activities**

NEPA Action Manager: **Debra Brand**

NEPA Action Funding: GPP Funding and FM Funds

Total Estimated Cost: \$500,000

Estimated Activity Start Date: August, 2007

Information Compiled by: Debra Brand and Linda Even

General Information:

Are the described actions part of an ongoing EA or other NEPA activity?

Yes ~~No~~

Explanation: General drainage support activities are covered in the 1987 EA. The need for the construction of this pond was identified in the 2002 EA and updated in the 2007 EA. Due to the number of planned construction activities in Drainage Area 40 and 50, this new pond must account for the reduced local storm water retention that will result from these disturbances to the drainage area.

Are any extraordinary circumstances related to these actions?

Yes ~~No~~

Explanation: As discussed in the 2007 EA, the groundwater in the vicinity is addressed in a Voluntary Remediation Project (VRP), though there is no evidence of any contaminants in the pond area. There are no health risk factors involving the groundwater, so there will be no health risks to construction personnel during this project.

Subcontractors will take care not to disturb traffic flow on Canon Boulevard. Subcontractor access points will include access from Canon Boulevard onto CEBAF Boulevard and utilizing the maintenance road behind the SURA Residence Facility going towards CEBAF Boulevard.

The walking trail from the Residence Facility along the maintenance road to CEBAF Boulevard will need to be closed off to non-construction pedestrian and non-authorized (security vehicles will be authorized) vehicle traffic.

The work impacts both DOE and SURA property. The transfer of SURA land to DOE that includes the pond and the future Hall D projects was recently completed. SURA has given a temporary easement to DOE and permissions to stockpile soil for this project. The Department of Conservation and Recreation (DCR) has also given permission for the easement to be considered DOE land so that no separate City of Newport News stormwater permit would be required. (Jefferson Lab is obtaining a City land disturbing permit that will be effective until area construction projects are completed and stabilized.)

Are actions connected to other actions with potentially significant impacts?

Yes ~~No~~

Explanation: The actions are primarily related to the construction activities evaluated in the 2007 EA for this drainage area, of which the major activities would be the construction of the pond and the Hall D complex..

Locations for the Proposed Actions:

The construction of the pond and channel project will affect about 5.5 acres of land near the east site boundary, located roughly 1200 feet southeast of the SURA Residence Facility. The pond construction itself will affect about 2.5 acres, including that for a temporary truck access route, and the remaining acreage for the related new local storm channels and the stockpile area. All activity, except some ditch rerouting and access paths on the SURA property, will be within the DOE property limits.

Undeveloped SURA property will remain to the north. Other nearby neighbors to the north are: the SURA Residence Facility; and the school bus station that is operated by the City of Newport News.

The 1.5 acre pond is located on a forested site to the north of CEBAF Boulevard just west of Canon Boulevard. The pond is situated about 200' due east of the E. Arc Service Building (Building 63). The three ditches that will be rerouted and/or reworked are to the north and to the north east of the pond site.

The existing gravel access road to the east of the SURA Residence Facility will serve as the primary clearing (haul) route. A new access path will be installed by the pond contractor for access to the soil stockpile area and will serve as the revised haul route after Ditch 1 is completed.

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is the setup, including placement of erosion and sediment control measures for the entire area to be disturbed (~ 5.5 acres), tree and brush clearing and grubbing over about 4.5 acres, re-routing Ditch 1 so that the northern part of the site does not drain to the pond, re-

routing the maintenance access road due to Ditch 1 re-routing, re-working Ditch 2 and 3 to the widths and elevations noted on the drawings, excavation for the pond, stockpiling of earth, grading and seeding of any disturbed areas.

The subcontractor will perform all the activities. The stumps will be removed and disposed of off-site. The excavated soil will be stockpiled and reused for the future Hall D complex.

The project site drains to Brick Kiln Creek. Refer to the Storm Water Pollution Prevention Plan (SWPPP) for more information. The impacts from increased runoff due to this construction will be mitigated as the permanent seeding and the functioning pond become established.

This site is primarily located on the DOE property with only ditch rerouting, ditch maintenance and ditch widening affecting SURA property and City of Newport News Right-of-Way along Canon Boulevard. A small portion of the SURA property has been temporarily designated as DOE property for stockpiling of materials.

Activities:

The actions will affect previously disturbed areas and areas that have not been recently disturbed.

Area Preparation

- Provision by subcontractor of an Environmental Protection Plan (EPP) that will be used by Jefferson Lab to finalize the project-specific SWPPP. The EPP will include the subcontractor's plan for addressing erosion and sediment control (E&SC), with most of the E&SC elements as shown on the construction drawings.
- The subcontractor will perform all necessary E&SC actions for this project per the construction activity VSMP storm water permit, including the installation of E&SC structures and the use of mulch and seeding in any disturbed areas.
- E&SC measures to include the preparation of a Construction Entrance off of CEBAF Boulevard at the permanent pond access entry point.

Clearing Activities

- Removal of trees and brush within limits shown on drawings.
- Temporary stockpiling of trees, brush, and soil.

Construction

- Earth removal in all areas and stockpiling earth.
- Installation of any storm water appurtenances
- Pond construction

Disposal and Area Stabilization

- Disposal of trees, brush, and stumps will be disposed of offsite and may be provided to off site mills.
- Restoring disturbed areas, including regrading and seeding upon completion of the removal/fill activities as required.
- Removing non earthen materials, including demolition and construction debris, to an off site disposal facility.
- Cleaning earth off of paved areas and restoring any areas broken during the action upon completion of the removal activity.
- Excess soil will be stockpiled for use on the future Hall D project.

Environmental Protection and Energy Conservation Factors, including Waste Minimization and Pollution Prevention

This action has only a few items that can be considered. For this job disturbance is to be limited to only the area needed for this project. Proper use of E&SC measures will limit impacts to surface storm water flows. Providing an option to the subcontractor to deliver trees to local mills will reduce our waste and its effect on local landfills.

JUSTIFICATION AND NEED FOR THE PROPOSED ACTION/PROJECT

What problem is this action intended to solve, and how will this action solve it?

New construction activities planned for this and an adjacent drainage area will reduce the effective storm water retention, and must be remedied with a permanent best management practice. Construction of the pond as well as the storm channel modifications and widening is expected to aid in both site storm water retention (in the pond and in the expanded and widened ditches) and improve the existing drainage system by more effectively getting storm water away from developed areas.

Were there any Alternate Technologies?

No.

Were there other Alternate Solutions?

There were no other technologies, however, other types of retention ponds were considered. This type, the extended dry pond, was chosen for various reasons, including less frequent maintenance requirements.

Were alternative sites for this project considered? If so, why were they rejected?

Other alternatives considered were discussed in Section 2.2.5 in EA-1354.

What would be the consequence(s) of taking NO ACTION toward the problem?

Decreased efficiency of site drainage.

DESCRIPTION OF THE AFFECTED ENVIRONMENT

Would any part of this activity involve work outside existing buildings? YES

A total of about 5.5 acres of land, almost all forested, will be disturbed for this project. The pond construction and areas along the Ditch 1 rerouting have a pine-oak forest with some undergrowth. Other affected areas are open maintained grass areas or open grasslands for all three ditch re-routing and ditch maintenance activities. Limited areas will be disturbed for rerouting the access road and for temporary subcontractor staging and stockpile areas.

Though there will be temporary negative effects from the construction activity, the new pond and the storm channel (ditches) work will improve area drainage and storm water retention.

Except as noted earlier that groundwater in the vicinity is under a VRP, there are no known concerns with the environmental status at the site.

POTENTIAL ENVIRONMENTAL EFFECTS CHECKLIST

[Consider all activities that will be part of or necessary in support of this project. Include any work to be performed by subcontractors.]

1. ACTIVITY: The primary and related activities for this project would be:

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|----------------------------------|---|
| | X | | Indoor Bench-Scale Research | |
| | X | | Indoor Pilot-Scale Research | |
| | X | | Outdoor Research | |
| | X | | Technology Development | |
| | X | | Technology Demonstration | |
| | X | | Chemical/Physical Analysis | |
| | X | | Maintenance / Modification | |
| | X | | Fabrication | |
| | X | | Production | |
| | X | | Routine Operation | |
| | X | | Non-routine Operation | |
| | X | | Renovation Indoors | |
| X | | | New Construction | |
| X | | | Transportation On-site | |
| X | | | Transportation Offsite | |
| X | | | Clearing / Removal of Vegetation | Work in the pond area and the minimum amount needed along the storm channels. |

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|----------|-------------|
| | X | | Other | |

2. INDUSTRIAL SAFETY: Would activities (during construction or during building operations) involve any of the following:

Yes No Uncertain

Explanation: Standard construction activities.

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|---|--|
| X | | | Excavation/Trenching/ Clearing [indicate total area affected] | About 4.5 acres of clearing with 1.6 of these acres for the actual pond and the rest for channel modification. |
| | | X | Utilities Lockout/ Tagout | Areas to be screened to verify that no utilities are present. (AccuMark) |
| X | | | Crane Operations | Placing precast concrete structures |
| | | X | Welding / Cutting | As required for equipment repair |
| X | | | Tree and Brush Cutting | About 4.5 acres |
| | X | | Confined Space Entry | |
| X | | | Blocking of Roads | Walking path between SURA Residence Facility and CEBAF Boulevard |
| | X | | Use of Scaffolds | |
| | X | | Use of Fall Protection | |
| | X | | Use of Explosives | |
| | X | | Use of Corrosives | |
| | X | | Use of Incompatible Chemicals | |
| | X | | Use of Compressed Gas Cylinders | |
| | X | | High Operating Pressures | |
| | X | | X-Rays | |
| | X | | Radiation Protection | |
| | X | | Other | |

3. INDUSTRIAL HYGIENE PROTECTION:

Yes No Uncertain *Not Applicable*

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|--|-------------|
| X | | | High Noise Level | |
| | X | | Extreme Temperature | |
| | X | | Non-ionizing Radiation | |
| | X | | Ionizing Radiation <i>[refer to #10]</i> | |
| X | | | Ergonomic Situations | |
| X | | | Respirator or Other Air Purifying Device | Sawdust |
| | X | | Anti-contamination Protective Clothes | |
| | X | | Confined Space | |
| | X | | Sanitation | |
| | X | | Other | |

4. RESPIRATORY PROTECTION:

Yes No Uncertain *Not Applicable*

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|-----------------------------------|--------------------|
| | X | | Abrasive Blasting | |
| | X | | Acid or Alkali Cleaning of Metals | |
| | X | | Degreasing | |
| | X | | Decontamination | |
| | X | | Use of Coolant and Cutting Fluids | |
| X | | | Welding, Cutting, or Brazing | Saws and equipment |
| | X | | Grinding, Polishing, or Buffing | |
| | X | | Metal Thermal Spraying | |
| | X | | Painting | |
| | X | | Electroplating | |
| | X | | Heat Treatment of Metal Alloys | |
| | X | | Boiler De-slagging | |
| | X | | Furnaces | |

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|--|-------------|
| | X | | Hoods | |
| X | | | Respirator or Other Air Purifying Devices | Dust |
| | X | | Other, including work with radioactive materials | |

5. MATERIALS: Would any of the following be encountered (E), handled (H), stored (S), used (U) or disposed (D) during any phase of the project?

| Yes | No | Uncertain | ACTIVITY | Other Info. | Est. On-hand Qty. | Est. normal usage or on-hand Qty |
|-----|----|-----------|-----------------------------|--|-----------------------|----------------------------------|
| | X | | Fissionable Materials | | | |
| | X | | Radioactive Materials | | | |
| | X | | Hazardous Materials | | | |
| | X | | Mixed Materials (Haz & Rad) | | | |
| | X | | Toxic Materials | | | |
| | X | | PCBs | | | |
| X | | | Oils | Cutting equipment and vehicles H, S, U | Small quantities only | |
| | X | | Asbestos | | | |
| | X | | Fibrous Insulation | | | |
| | X | | Organic Chemicals | | | |
| | X | | Heavy Metals | | | |
| | X | | Compressed Gases | | | |
| | | X | Pesticides / Herbicides | As needed for pond maintenance (during use) | | |
| X | | | Petroleum | For equipment H, S, U | Small quantities only | |
| | | X | Other | VRP regarding groundwater in vicinity – there are no health impacts. | 0 | |

6. EQUIPMENT: Would any of the following types of oil-containing equipment be used during any phase of the project?

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|---------------------------|--|
| | X | | Transformers | |
| | X | | Capacitors | |
| | X | | Hydraulic Presses | |
| | X | | Other Hydraulic Equipment | |
| | X | | Large Light Ballasts | |
| | X | | Vacuum Pumps | |
| X | | | Other | Construction equipment containing oil. |

7. LIQUID WASTES: Would the project involve disposal or discharge of liquid wastes into any of the following collection and/or treatment systems? What and how much?

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|--|--|
| X | | | Sanitary Wastewater | Portable toilet waste treated offsite; hand sink in trailer. |
| | X | | Low-Level Rad Waste | |
| | X | | Process Waste | |
| | X | | Other Liquid Waste, e.g. sump discharges | |
| | X | | Discharge to Soil | |
| X | | | Storm Sewer / Surface Water | |
| | X | | Other | |

8. SINKS/DRAINS: Would any of the following be present in the project area? What and how much? *Temporary office trailer usage – See #7.*

9. SOLID WASTES: Would solid wastes be generated (G), stored (S), or disposed (D) of as a result of this project? What, how much, and characteristics, if known?

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|----------|-------------|
| | X | | Asbestos | |

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|----------------------------------|--------------------------------------|
| | X | | Radioactive | |
| | X | | RCRA Hazardous | |
| | X | | Mixed | |
| X | | | Non-hazardous | Standard debris |
| | X | | Radioactively Contaminated Wipes | |
| | X | | Contaminated Wipes | |
| | X | | Biohazard Wastes | |
| | | X | Oily Wastes | |
| X | | | Other | Construction debris, nothing harmful |

10. AIRBORNE EMISSIONS: Would the project generate airborne emissions?

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|--------------------|--|
| | X | | Radioactive | |
| | X | | Hazardous or Toxic | VRP area in vicinity, no risk from emissions |
| | X | | Mixed | |
| X | | | Other | Construction dust |

11. POLLUTION PREVENTION (P2): Would any of the following waste minimization & P2 methods be applicable and considered for use for the proposed project?

| Yes | No | Uncertain | ACTIVITY (Accel. & Physics Div practices) | EXPLANATION |
|-----|----|-----------|--|---|
| X | | | P2 Practices | E&SC |
| | X | | Waste Volume Reduction | |
| | X | | Waste Toxicity Reduction | |
| | X | | Waste Segregation | |
| | X | | Equipment Reuse | |
| X | | | Materials Recycling | No materials from the construction activity expected. Personal product recycling is encouraged, but not required. |
| | X | | Product/ Materials Substitution | |

| Yes | No | Uncertain | ACTIVITY (Accel. & Physics Div practices) | EXPLANATION |
|-----|----|-----------|--|---|
| | X | | Inventory Control | |
| | X | | Energy Conservation | |
| | | X | Other | Soil Stockpiling will be retained for the future Hall D complex |

12. OUTDOOR STORAGE: Would the project utilize tank, drum, bottle or other storage of any materials?

Yes

No

Uncertain

Not Applicable

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|-------------------------|---|
| | X | | Radioactive | |
| | X | | Hazardous or Toxic | |
| | X | | Mixed | |
| | X | | Flammable Materials | |
| | X | | Reactive Materials | |
| | X | | Corrosive Materials | |
| | X | | Explosive Materials | |
| | X | | Shelf Chemicals | |
| | X | | Old Chemicals | |
| X | | | Oil | Construction equipment |
| | X | | Pesticides / Herbicides | |
| X | | | Petroleum | Subcontractor may keep diesel tank within construction limits and is required to provide secondary containment. |

13. CHEMICAL USE: Will this project result in the storage and/or use of chemicals in the workplace, either in the construction or operation phase?

Yes

No

Uncertain

Not Applicable

Explanation: Storage of chemicals. Nothing unusual.

| Activity | Chemical & Quantity | Storage Method |
|---------------------|---------------------|----------------|
| Maintenance of pond | Not Known | Appropriate |
| Mosquito control | Not Known | Appropriate |

14. ACCUMULATION, TREATMENT, OR RECYCLE AREAS: Would the project involve any of the following? Describe and quantify.

Yes No Uncertain *Not Applicable*

Explanation: There may be a temporary subcontractor recycling area for aluminum cans and bottles.

15. BELOW GROUND STORAGE: *Not Applicable*

16. RADIOLOGICAL AREAS: *Not Applicable*

17. RADIATION PROTECTION CONTROLS: *Not Applicable*

18. RADIATION SOURCES: *Not Applicable*

19. OPERATIONAL READINESS: Would the activity involve one or more of the following?

Yes No Uncertain *Not Applicable*

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|-----------------------------------|--|
| X | | | Safety Review | Jefferson Lab Construction ES&H (SAF 121) Course |
| | X | | Safety Class Items | |
| | X | | Items under Configuration Control | |
| | X | | Glove Boxes | |
| | X | | Other | |

20. UNCONTROLLED RELEASES: Would measures be in place to manage possible uncontrolled emissions, discharge, or spills during any phase of the project?

Yes No Uncertain

Explanation: Secondary containment, construction subcontractor environmental protection plan that includes the erosion control measures to be used.

21. EMERGENCY RESPONSE: In the event of a release, would the following be readily available in the work area?

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|--|-----------------------------|
| X | | | MSDS Information | |
| X | | | Spill Control and Containment Material | |
| X | | | Phone Numbers | |
| X | | | Portable Fire Extinguishers | |
| X | | | Warning Signs | |
| | | X | Other | To be identified if needed. |

22. PERMITTING: Would the project/activity require application for or modification of any of the following permits?

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|---|---|
| X | | | Excavation / Penetration | Dig Permit |
| | X | | Burning Permit | |
| | X | | Radiation Work Permit | |
| | | X | Safety Work Procedure | Address hazards that could be applicable in the vicinity of the construction work (SAF121). |
| | X | | Air Permit | |
| | X | | Fugitive Emissions Permit | |
| | X | | Existing VPDES Permit | Advance notice to Dept. of Environmental Quality required. |
| | X | | Permit for Groundwater Dewatering at End Stations | |
| | X | | RCRA | |
| | X | | Corps of Engineers | |
| | X | | NESHAPs | |
| X | | | Stormwater Management | Requirements under VAR040079 regarding training to prevent pollution of storm water will be covered in the SAF121 training noted above. |
| X | | | Stormwater During Construction Activities | Subcontractor to address through his/her environmental protection plan, which will be included in the Appendix to Lab SWPPP. |
| | X | | Other | |

23. GROUNDWATER PROTECTION: Does the proposed project have any of the following existing or planned features or conditions? Will this project result in any activation of soil or groundwater?

Yes No Uncertain *Not Applicable*

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|--|--|
| X | | | Existing Wells or Boreholes | To be protected. |
| | X | | Existing Contaminated Groundwater | |
| | X | | Excavations requiring Dewatering during Construction | Removal of earth for pond construction / development. No to minimal temporary dewatering expected. |
| | X | | Devices that could alter Groundwater Levels | |
| | X | | New Monitoring Wells | |
| | X | | New Soil Borings | |
| | X | | Other | |

24. PLANT/ANIMAL SPECIES: Has the project area been surveyed for plants (or habitats of plants) or animals (or habitats) listed as follows?

Yes No Uncertain *Not Applicable*

Explanation: Included with 1987, 2002, and 2007 EAs. No expected impacts to plant/animals expected with this project. Applicable state and federal agencies were notified through the EA review process.

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|--------------------|---|
| | | X | Endangered | Potential exists but no conditions of environmental concern seem to exist in the affected area. |
| | | X | Threatened | “ |
| | | X | Of Special Concern | “ |
| | | X | Other | In the 2007 EA if anything unusual is found, work in that vicinity will be halted, SOTR to be notified. DOE/Jefferson Lab to notify appropriate agency. |

25. AQUATIC SPECIES: Have waters in the project area been surveyed for aquatic species listed as follows?

Yes No Uncertain *Not Applicable*

Explanation: Local conditions were reviewed for the 2002 and 2007 EAs. No aquatic species of any concern have been identified on-site. This drainage channel does have species, but will verify that there is nothing worth reporting to the agencies. As above, if anything of State interest identified, the appropriate agency will be notified.

26. HISTORICAL/ARCHEOLOGICAL: Has the proposed site been surveyed for objects of historical/archeological significance?

Yes No Uncertain *Not Applicable*

Explanation: Included with 1987, 2002, and 2007 EAs. No concerns were documented by applicable state and federal agencies. The new EA will be provided to applicable agencies during the EA review process. The appropriate State agency will be contacted if anything of potential significance is identified,

27. FLOODPLAIN: Would the project encroach upon or take place within any of the following areas?

Yes No Uncertain *Not Applicable*

Explanation: This work does not occur in a 100-year floodplain. The actions will have a very small impact on storm water management in that rainfall will no longer be buffered by the previously surrounding tree cover.

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|---------------------------------|--|
| | X | | 100-year Floodplain | Zone C Only |
| | X | | Creek / Stream | |
| X | | | Chesapeake Bay Preservation Act | The site is on a local floodplain map but is not located in any specially designated areas under the CBPA. However, we follow the CBPA requirements as it is federal property. |
| X | | | Storm Channel | For site storm water drainage. |
| X | | | Other | Site has general flooding during large storms. |

28. WETLANDS: Are the following conditions present at any proposed site?

Note: Wetlands are not limited to standing water. Areas such as low forest, sedge meadows and stream banks may qualify.

Yes No Uncertain *Not Applicable, per 2001 Review.*

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|------------------------|-------------|
| | X | | Hydrophytic Vegetation | |
| | X | | Hydric Soils | |
| | X | | Wetland Hydrology | |

29. SITE UTILIZATION: Would the proposed project take place in any of the following?

| Yes | No | Uncertain | ACTIVITY | EXPLANATION |
|-----|----|-----------|---------------------|---|
| | X | | Developed Site(s) | |
| X | | | Disturbed Site(s) | Part of the construction/excavation site is previously disturbed. |
| X | | | Undeveloped Site(s) | Treed areas have not been disturbed recently / previously. |
| | X | | Pristine Area(s) | |
| | | | Other | |

30. EXCAVATION ACTIVITY: If the project will require any construction activity involving excavation or soil disturbance, estimate the:

Area to be affected: Total of approximately 5.5 acres.

Volume of spoils: Approximately 15,000 Cu. yards

Expected disposition of spoils: Trees will be taken and disposed of offsite, or be recycled off site. Excess earth will be stockpiled. Construction debris is to be disposed of off site.

What control measures will be used to avoid soil erosion? How far away are the nearest surface water bodies or drainage channels (including potential wetlands)?

DOE/Jefferson Lab are acquiring a General Permit involving storm water management during construction activities that will be applicable for this project. For this work, Jefferson Lab has a Storm Water Pollution Prevention Plan. The project-specific appendix to this plan will be prepared by Jefferson Lab, and will include the subcontractor-provided Environmental Protection Plan (EPP). The EPP will identify the subcontractor's plan to control erosion and sediment at the job site and will include all the elements identified in the subcontract specifications and/or on the drawings.

The subcontractor will furnish the EPP for Lab review and approval according to the terms of the subcontract. The program is also identified in Jefferson Lab's EH&S Manual Appendix 6733-T2. The installation of devices will be in place prior to the start of any land disturbance and maintained throughout the course of the job.

The project will not disturb any land that isn't within the limits of construction. The project may make temporary use of adjacent paved or gravel areas.

31. ENVIRONMENTAL ASPECTS CHECKLIST

ASPECTS: The environmental aspects associated with this project are:

| Aspect Category (air, wastewater, haz waste, solid waste, spill potential energy/nat. resources, other) | Aspect | Significant? (Y/N) | SOP number and name | Engineering Control (if needed) |
|--|---|-----------------------|--|--|
| Construction | | | | |
| Raw Materials | Oil or Oily Water spills | No | N/A | Secondary containment of oil or other liquids |
| Air Emissions | Particulates from earth disturbance | Yes - Temporarily | N/A | See specifications section 3.1 and subcontractor's EPP |
| Air Emissions | Vehicle Use/ Diesel Emissions | Yes – Temporarily | N/A | See specifications section 3.1 and subcontractor's EPP |
| Wastewater | Vehicle washing | No | N/A | See specifications section 3.1 and subcontractor's EPP |
| Wastewater | Local dewatering | No | N/A | See specifications section 3.1 and subcontractor's EPP |
| Construction Wastes | Non-hazardous waste | No | N/A | Off site disposal is in specifications |
| Tree Clearing Wastes | Non-hazardous waste | No | N/A | Off site disposal is in specifications |
| Wastewater | Non-hazardous waste | No | N/A | Off site disposal is in specifications |
| Operations | | | | |
| (Storage of) Recyclables | Lawn/Garden Waste (temporary earth stockpile) | Yes | Jefferson Lab's agreement with the City to double silt fence the stockpile area. | Jefferson Lab (Facilities and Logistics) will manage E&SC measures after contractor has left the |

| Aspect Category (air, wastewater, haz waste, solid waste, spill potential energy/nat. resources, other) | Aspect | Significant? (Y/N) | SOP number and name | Engineering Control (if needed) |
|---|--|-------------------------------|----------------------------|---|
| | | | | site. [Note that once an area is stabilized it can be removed from the permit.] |
| Recyclables | Lawn/Gardening Waste (Silt from pond) | No | To be Determined | SOP to be prepared by Facility & Logistics |
| Surface Water Discharge | Pesticide/Herbicide Usage | No | N/A | To be identified as needed. |
| | | | | |

This has been completed by Facilities & Logistics Management to the best knowledge of the project scope. If conditions or project scope change or changes become evident, updated information will be provided to the ESH&Q Environmental Department.